Amendments to the Claims

This listing of claims replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (Currently amended) A temperature compensation valve comprising:

an enclosure having an inlet and an outlet;

an orifice allowing for communication between the inlet and the outlet; and

~~a~~ means for varying said orifice size to allow for a substantially constant, defined flow rate with fluctuations in temperature, said means comprising a piston positioned across the inlet to modulate flow rate as a function of temperature, said piston comprising a first side and a second side,

a puck adjacent said first side of said piston, said puck expanding as temperature increases, thereby urging said piston toward said orifice;

biasing means adjacent said second side of said piston; and

a fine tuning adjuster.

2. (Canceled)

3. (Canceled)

4. (Currently amended) The temperature compensation valve of Claim ~~3~~ 1 wherein said biasing means is a spring.

5. (Currently amended) The temperature compensation valve of Claim ~~3~~ 1 wherein said second side of said piston further comprises a flanged end for retaining said biasing means.

6. (Canceled)

7. (Currently amended) The temperature compensation valve of claim ~~3~~ 1 wherein said biasing means urges said piston away from said orifice.

8. (Currently amended) The temperature compensation valve of claim ~~3~~ 1 wherein said puck is a comprised of a material with a temperature expansion coefficient different than the ~~housing material~~ temperature expansion coefficient of the enclosure material.

9. (Currently amended) The temperature compensation valve of claim ~~2~~ 1 wherein said piston further comprises a pair of annular grooves, wherein each of said annular grove has an o-ring seated within.

10. (Canceled)

11. (Currently amended) The temperature compensation valve of claim ~~10~~ 1 wherein said fine tuning adjuster comprises a threaded nut and a threaded fitting wherein advancing said threaded nut into said threaded fitting urges said puck toward said piston to thereby reduce the size of said orifice.

12. (Currently amended)The temperature compensation valve of claim ~~3~~ 1 further comprising a position measurement rod.

13 (Currently amended). The temperature compensation valve of claim 12 wherein said position measurement rod further comprises:

a center rod and an end knob, said center rod having a first ~~side~~ end and a second ~~side~~ end ; wherein

said first end of said center rod is in communication with said piston and said second end of said center rod is in communication with said end knob; and

said end knob protrudes from said valve to provide a visual indication of the position of said piston.

14. (Original) The temperature compensation valve of claim 13 wherein said center rod is substantially surrounded by said biasing means.

15. (Currently amended) A pneumatic control system comprising:

a source of gas, a temperature compensation valve, and an actuator;

said temperature compensation valve further ~~comprises~~ comprising an enclosure having an inlet and an outlet, an orifice allowing for communication between the inlet and the outlet; and ~~a~~ means for varying said orifice size to allow for a substantially constant, defined flow rate with fluctuations in temperature, said means comprising a piston positioned across the inlet to modulate flow rate as a function of temperature, said piston comprising a first side and a second side,

a puck adjacent said first side of said piston, said puck expanding as temperature increases, thereby urging said piston toward said orifice;

biasing means adjacent said second side of said piston; and

a fine tuning adjuster.

16. (Canceled)

17. (Canceled)

18. (Currently amended) The pneumatic control system of Claim ~~17~~ 15 wherein said biasing means is a spring.

19. (Currently amended) The pneumatic control system of Claim ~~17~~ 15 wherein said second side of said piston further comprises a flanged end for retaining said biasing means.

20. (Canceled)

21. (Currently amended) The pneumatic control system of claim ~~17~~ 15 wherein said biasing means urges said piston away from said orifice.

22. (Currently amended) The pneumatic control system of claim ~~17~~ 15 wherein said puck is a comprised of a material with a temperature expansion coefficient different than the ~~housing material~~ temperature expansion coefficient of the enclosure material.

23. (Currently amended) The pneumatic control system of claim ~~16~~ 15 wherein said piston further comprises a pair of annular grooves, wherein each of said annular grove has an o-ring seated within.

24. (Canceled)

25. (Currently amended) The pneumatic control system of claim ~~24~~ 15 wherein said fine tuning adjuster comprises a threaded nut and a threaded fitting wherein advancing said threaded nut into said threaded fitting urges said puck toward said piston to thereby reduce the size of said orifice.

26. (Currently amended) The pneumatic control system of claim ~~17~~ 15 further comprising a position measurement rod.

27. (Currently amended)The pneumatic control system of claim 26 wherein said position measurement rod further comprises:

a center rod and an end knob, said center rod having a first ~~side~~ end and a second ~~side~~ end; wherein

said first end of said center rod is in communication with said piston and said second end of said center rod is in communication with said end knob; and

said end knob protrudes from said valve to provide a visual indication of the position of said piston.

28. (Original) The pneumatic control system of claim 27 wherein said center rod is substantially surrounded by said biasing means.

29. (Currently amended) A method of compensating for fluctuations in temperature for a ~~pressure regulator~~ temperature compensation valve comprising a ~~diaphragm or~~ piston positioned in series with a spring having a spring rate and a puck, said method comprising the steps of:

determining ~~the~~ a change in spring force due to temperature;

determining ~~the~~ a temperature coefficient of expansion of a puck;

selecting a puck length such that said length multiplied by said temperature coefficient of expansion and multiplied by said spring rate is equal to said change in spring force due to temperature wherein said ~~strength of said~~ spring rate is substantially constant; thereby assuring that the pressure in said regulator remains substantially unchanged due to fluctuations in temperature.

30. (New) The temperature compensation valve of claim 8 wherein said puck comprises a fluorosilicone elastomeric rubber.

31. (New) The pneumatic control system of claim 15 wherein said puck comprises a fluorosilicone elastomeric rubber.